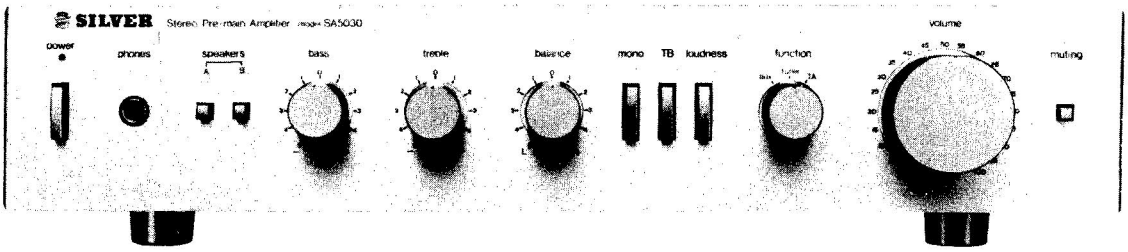
SERVICE MANUAL
SILVER
MODEL SA5030



SPECIFICATIONS

POWER SUPPLY	AC 220V 50 Hz
POWER CONSUMPTION	370 watts
CONTINUOUS POWER OUTPUT	50 + 50 watts at 1 kHz, 4 ohm not more than 0.05% THD
TOTAL HARMONIC DISTORTION	0.018% (1 kHz, 1/2 rated power)
INTERMODULATION DISTORTION	0.05%
POWER BAND WIDTH	10 Hz – 100 kHz
FREQUENCY RESPONCE	1.5 Hz – 14.5 kHz
DAMPING FACTOR	30 (4 ohm)
CHANNEL SEPARATION	40 dB
INPUT SENSITIVITY:	
Phono (ta)	2.3 mV/52 k ohm
Tuner, AUX, TB	13.5 mV/17 k ohm
RIAA EQUALIZATION	± 0.5 dB (20 – 20,000 Hz)
SIGNAL/NOISE RATIO:	
Phono (TA)	83 dB (IHF – A)
Tuner, AUX, TB	94 dB (IHF – A)
PHONO OVERLOAD LEVEL	200 mV (1 kHz, 0.1%)
TONE CONTROL	
Bass (100 Hz)	± 8 dB
Treble (10 kHz)	± 8 dB
DIMENSIONS	385 (W) x 72.5 (H) x 320 (D) mm
WEIGHT	7.0 kg

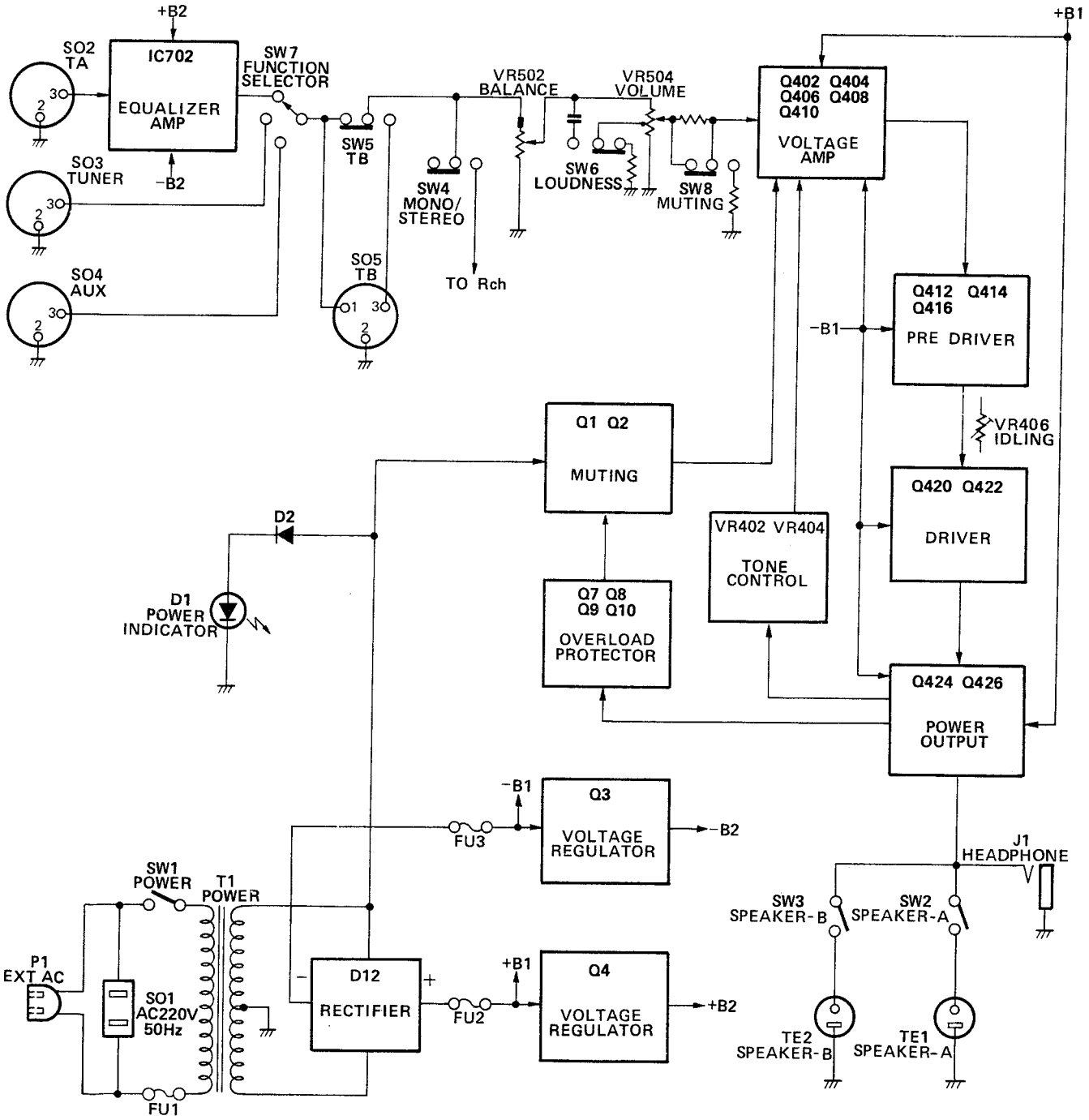
Specifications may be changed without notice.

NOTE: **When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.**

METHOD OF DISASSEMBLING

1. Remove cabinet top cover by unscrewing 6 screws (A).
2. Remove 2 screws (B) and 5 self-tapping screws (C).
3. Remove 5 Knobs of volume, function, balance, treble and bass, and pull out front panel assembly.
4. Remove cabinet bottom cover by unscrewing 5 self-tapping screws (D) and loosening 3 self-tapping screws (E).
5. Remove heat sink (187) by unscrewing 2 screws (F).
6. Remove equalizer amp. P.C. board with brackets by unscrewing 1 screw (G) and 2 self-tapping screws (H) and loosening 1 self-tapping screw (I).

SCHEMATIC BLOCK DIAGRAM



GENERAL UNIT PARTS LIST

[MODEL SA5030]

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
103	Front Panel Assembly	A443-SA5030			
106	Push Button Assembly, Muting	A662-SA5030A			
107	Push Button Assembly, Speaker	A662-SA5030B			
113	Foot, Front	1319-7130			
114	Foot, Rear	1319-7230			
121	Cabinet Top	1414-00501			
123	Cabinet Bottom	1423-00201			
124	Cabinet Back	1424-01201			
125	Cabinet Bottom, Main	1424-01301			
138	Rotary Knob, Function, Balance, Bass, Treble	1634-00901			
139	Knob Base, Function, Balance, Bass, Treble	1355-7034			
145	Rotary Knob, Volume	1634-00202			
146	Knob. Base, Volume	1355-7031			
154	Push Button, Power, Mono TB, Loudness	1662-01601			
162	Bushing, AC Line Cord	2114-415027			
166	Spacer, Power Switch	2132-01404			
167	Spacer, Muting Switch	2132-01701			
168	Spacer, Equalizer P.C. Board	2132-01405			
170	Spacer, Equalizer P.C. Board	2132-01702			
171	Chassis, Front Panel	2211-7194			
172	Fixing Bracket	2218-20			
174	Bracket, Function Switch	2219-7551			
175	Bracket, Headphone Jack	2219-7552			
176	Bracket, Equalizer P.C. Board	2219-7586			
178	Bracket, Front Chassis (Right)	2219-7555			
179	Bracket, Front Chassis (Left)	2219-7556			
180	Bracket, Fuse	2219-7570			
181	Bracket, Front Chassis	2219-7559			
182	Bracket, Bass, Treble, Balance	2219-7569			
183	Heat Sink, Voltage Regulator	2222-7078			
185	Heat Sink, Main	2222-7082			
186	Heat Sink, Main P.C. Board (Front)	2222-7083			
187	Heat Sink, Main P.C. Board (Rear)	2222-7084			
188	Insulator, Fuse Holder	2224-7033			
189	Insulator, Heat Sink	2224-7050			
194	Holder, Fuse Cover	2240-7040			
199	Holder, Lead Wire Settle	2240-7061			
206	Shaft, Power Switch, Mono, Treble, Loudness	2601-7059			
208	Shaft, Function Switch	2601-7068			
209	Shaft, Function Switch	2601-7069			
210	Shaft, Speaker Switch	2601-7072			
211	Spring, Knob	2651-110518			
212	Spring, Push Button	2651-210187			
213	Spring, Power Switch	2651-210186			
216	Metal	2613-0610			
221	Boss	2363-50166			
222	Special Screw, Ground Terminal	2310-7002			
223	Flat Washer (3.2ϕ)	2411-3021			
224	Flat Washer (4.3ϕ x 9ϕ x 0.8t)	2411-4021			
225	Metal Washer (4.6ϕ x 2.0ϕ x 1.6t)	2401-0473			
226	Spring Washer (4.1ϕ)	2412-4012			
227	Metal Washer (4.5ϕ x 14ϕ x 1.2t)	2401-0476			
228	Toothed Lock Washer (3.2ϕ)	2414-302			
229	Plastic Washer (3.2ϕ x 8ϕ x 1t)	2402-0372			
230	Special Hexagon Nut (M7), Ground Termia	2440-7001			
231	Self-Tapping Screw (3 x 8 mm)	2347-300822			
233	Hexagon Nut (M3)	2446-301Z9			
234	Hexagon Nut (M4)	2446-401Z9			
235	Self-Tapping Screw (3 x 6 mm)	2327-300629			
236	Hexagon Nut, (M9)	2447-09227			
237	Self-Tapping Screw (4 x 10 mm)	2327-401029			
238	Self-Tapping Screw (3 x 8 mm)	2347-300842			
239	E-Stop Ring	2461-401			
240	Screw (4 x 12 mm)	2327-401229			

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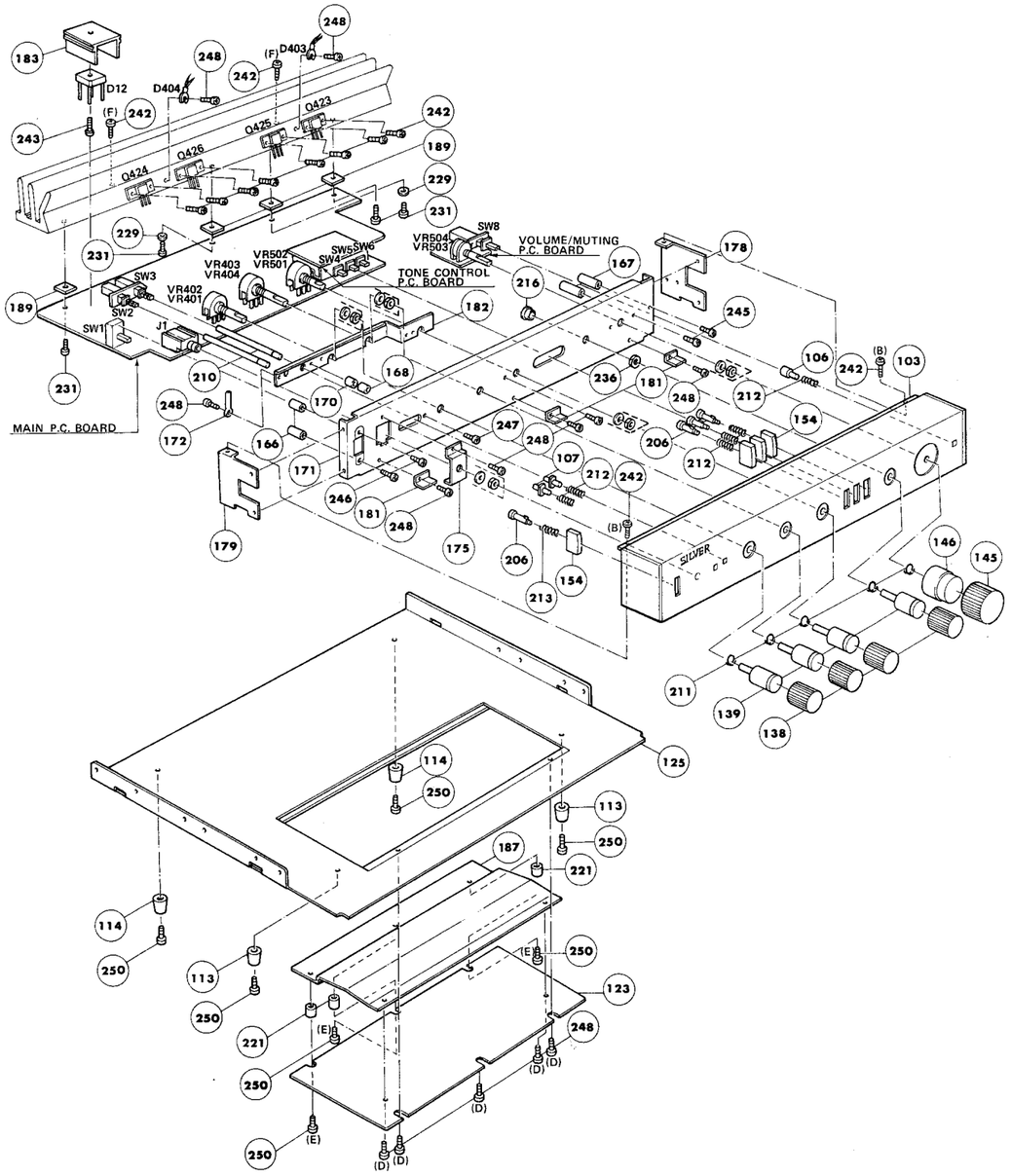
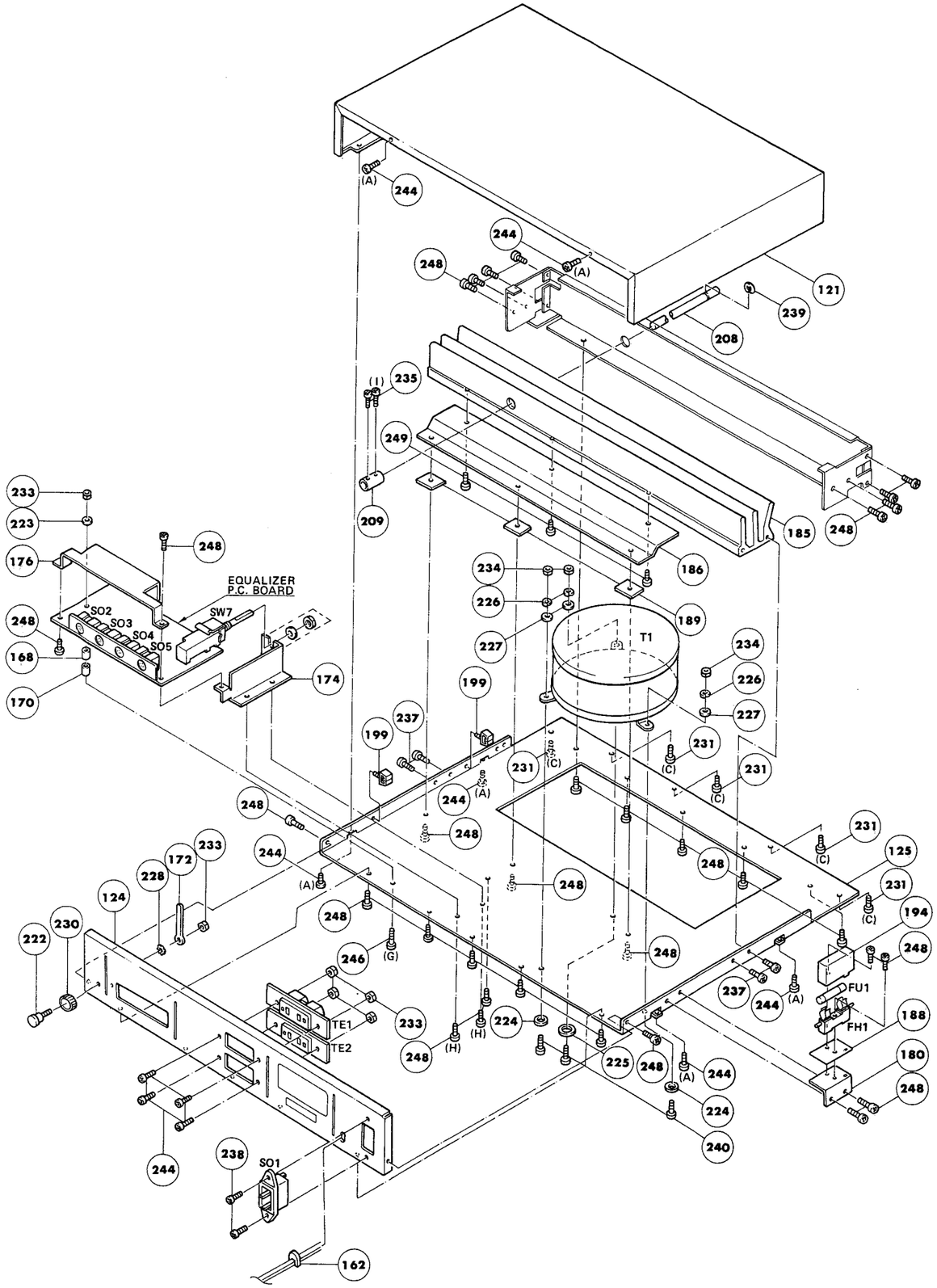
REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
242	Screw (3 x 8 mm)	2327-300829			
243	Screw (3 x 12 mm)	2327-301229			
244	Screw (3 x 8 mm)	2327-300849			
245	Screw (3 x 16 mm)	2327-301629			
246	Screw (3 x 25 mm)	2327-302529			
247	Self-Tapping Screw (3 x 20 mm)	2347-302022			
248	Self-Tapping Screw (3 x 6 mm)	2347-300622			
249	Self-Tapping Screw (4 x 8 mm)	2347-400822			
250	Self-Tapping Screw (3 x 12 mm)	2347-301222			

GENERAL UNIT EXPLODED VIEW





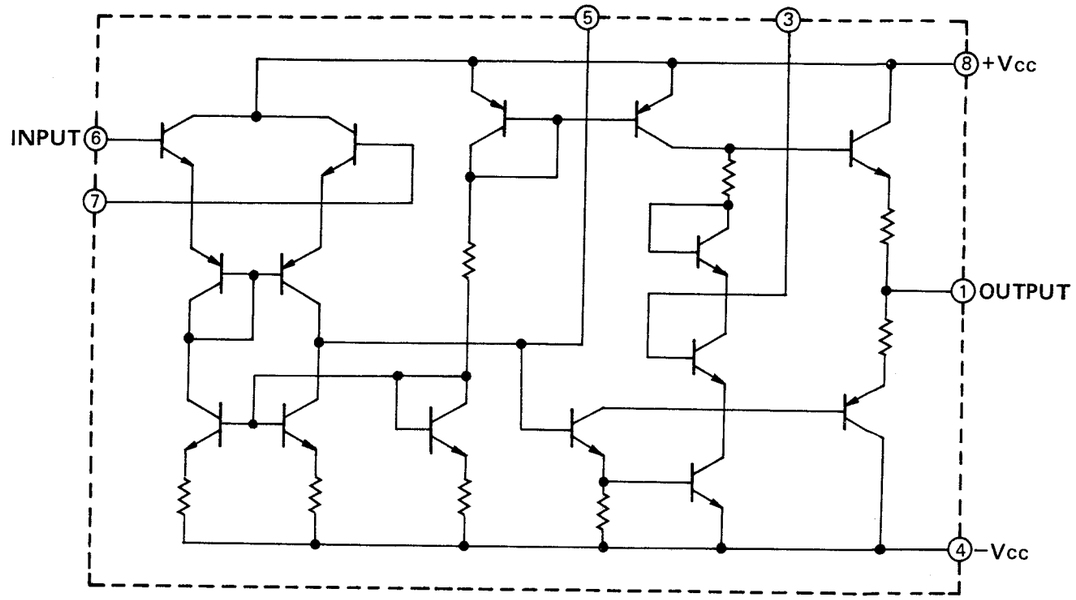
IDLING CURRENT ADJUSTMENT

Equipment Required: DC V.T.V.M.

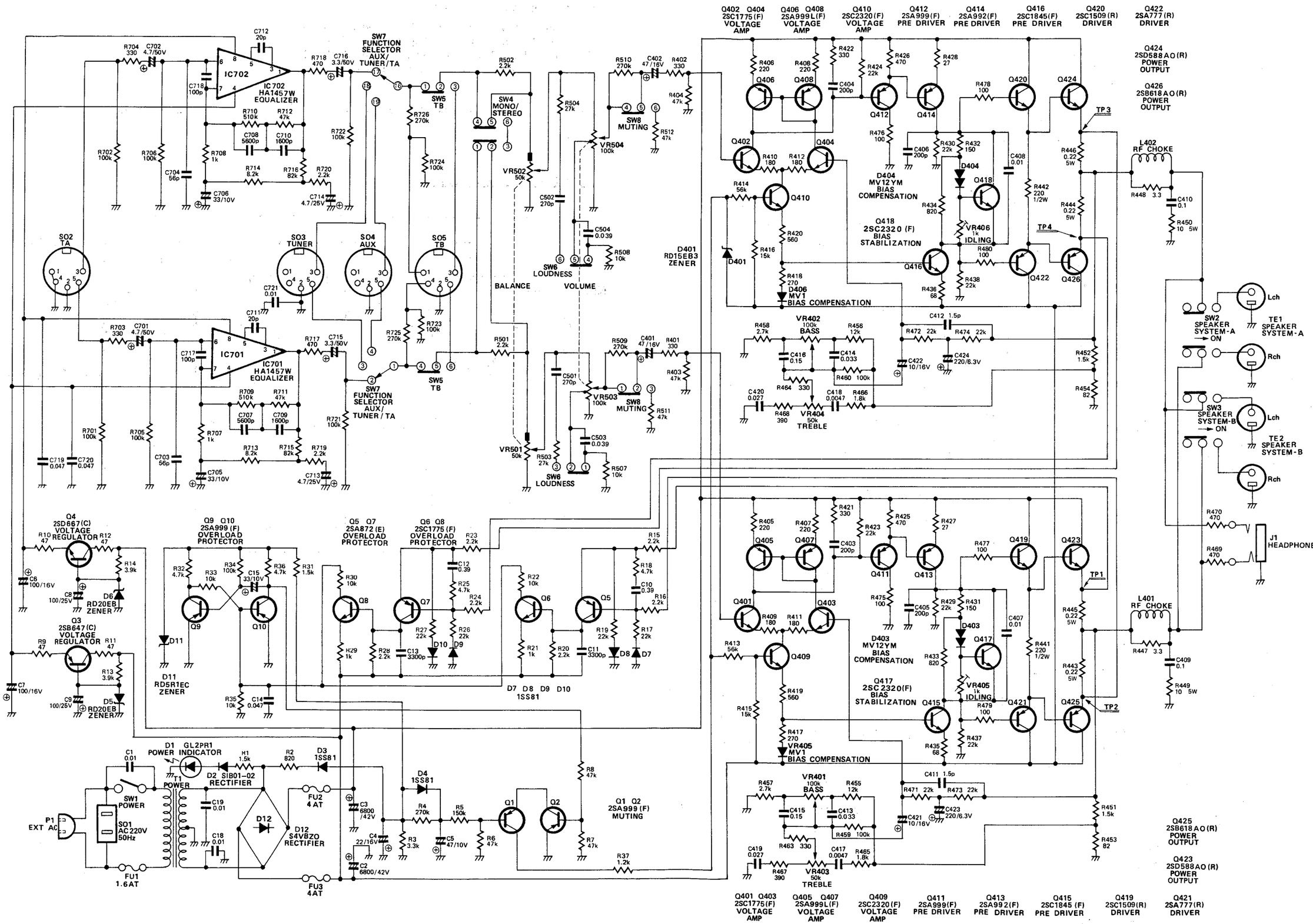
1. Connect DC V.T.V.M. to TP1 (R445) and TP2 (R443).
2. Adjust VR405 so that the voltage becomes 22mV.
3. Connect DC V.T.V.M. to TP3 (R446) and TP4 (R444).
4. Adjust VR406 so that the voltage becomes 22mV.

NOTE: Start adjustment 5 minutes later from turning on to stabilize idling current and under no signal conditions.

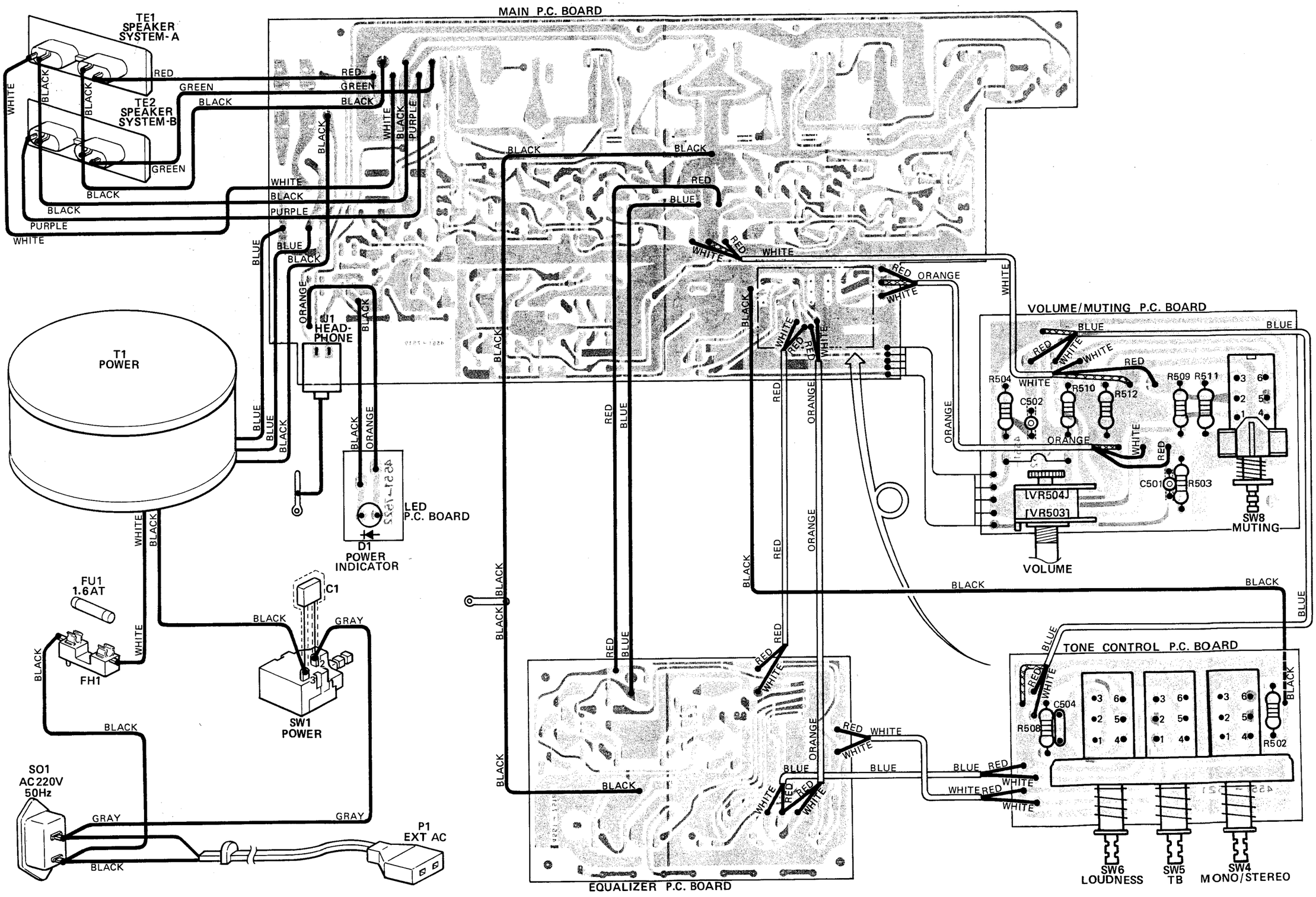
IC SCHEMATIC DIAGRAM



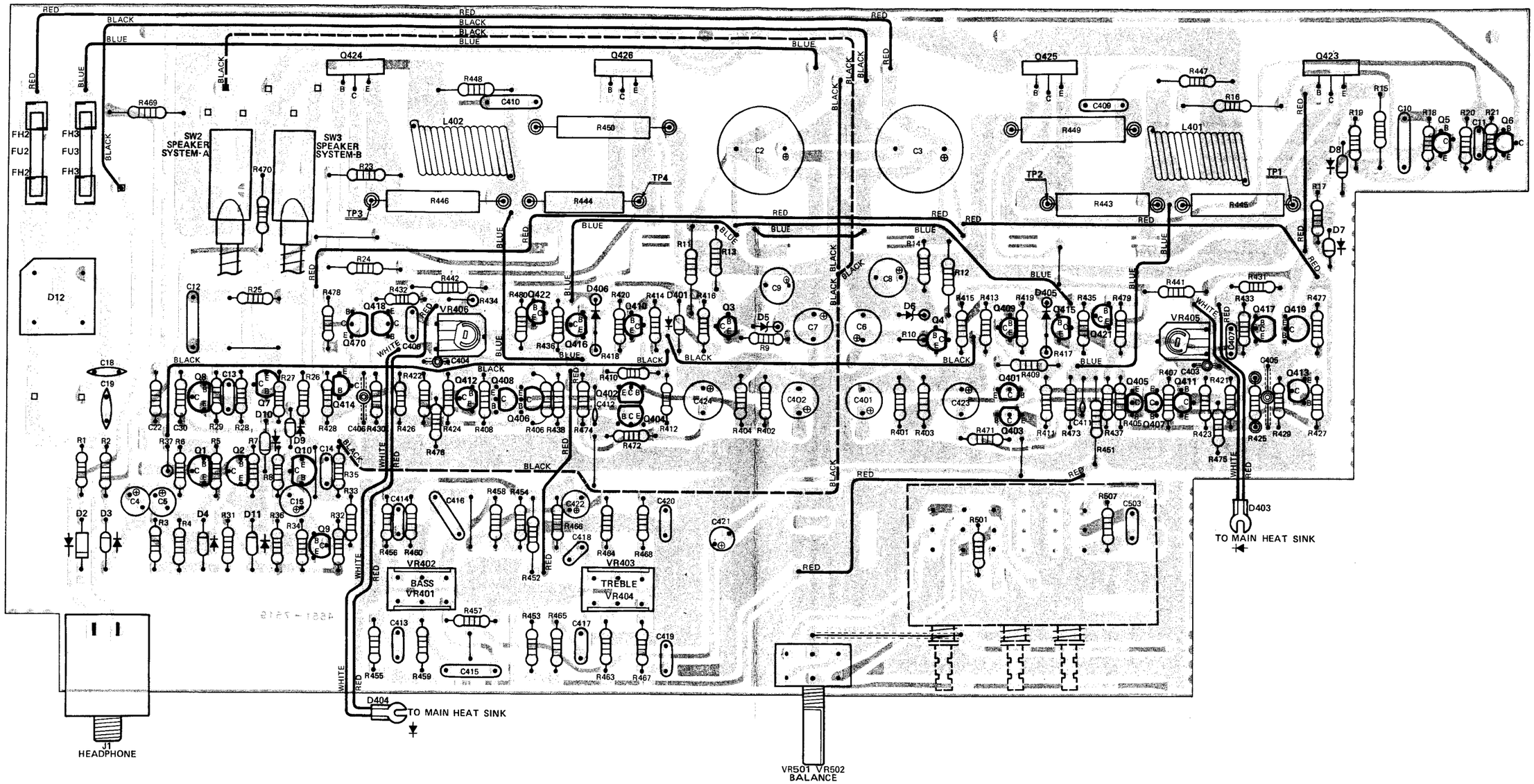
SCHEMATIC DIAGRAM



WIRING DIAGRAM

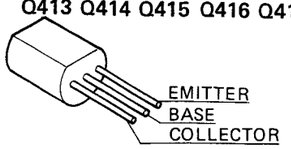


MAIN P.C. BOARD

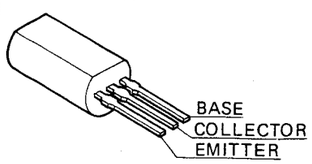


TRANSISTOR VIEW

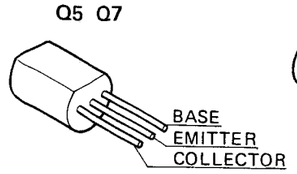
Q1 Q2 Q6 Q8 Q9 Q10
Q401 Q402 Q403 Q404 Q405 Q406
Q407 Q408 Q409 Q410 Q411 Q412
Q413 Q414 Q415 Q416 Q417 Q418



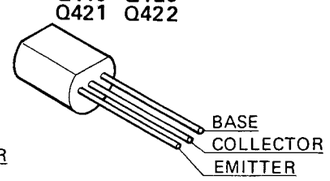
Q3 Q4



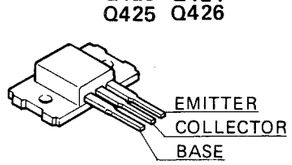
Q5 Q7



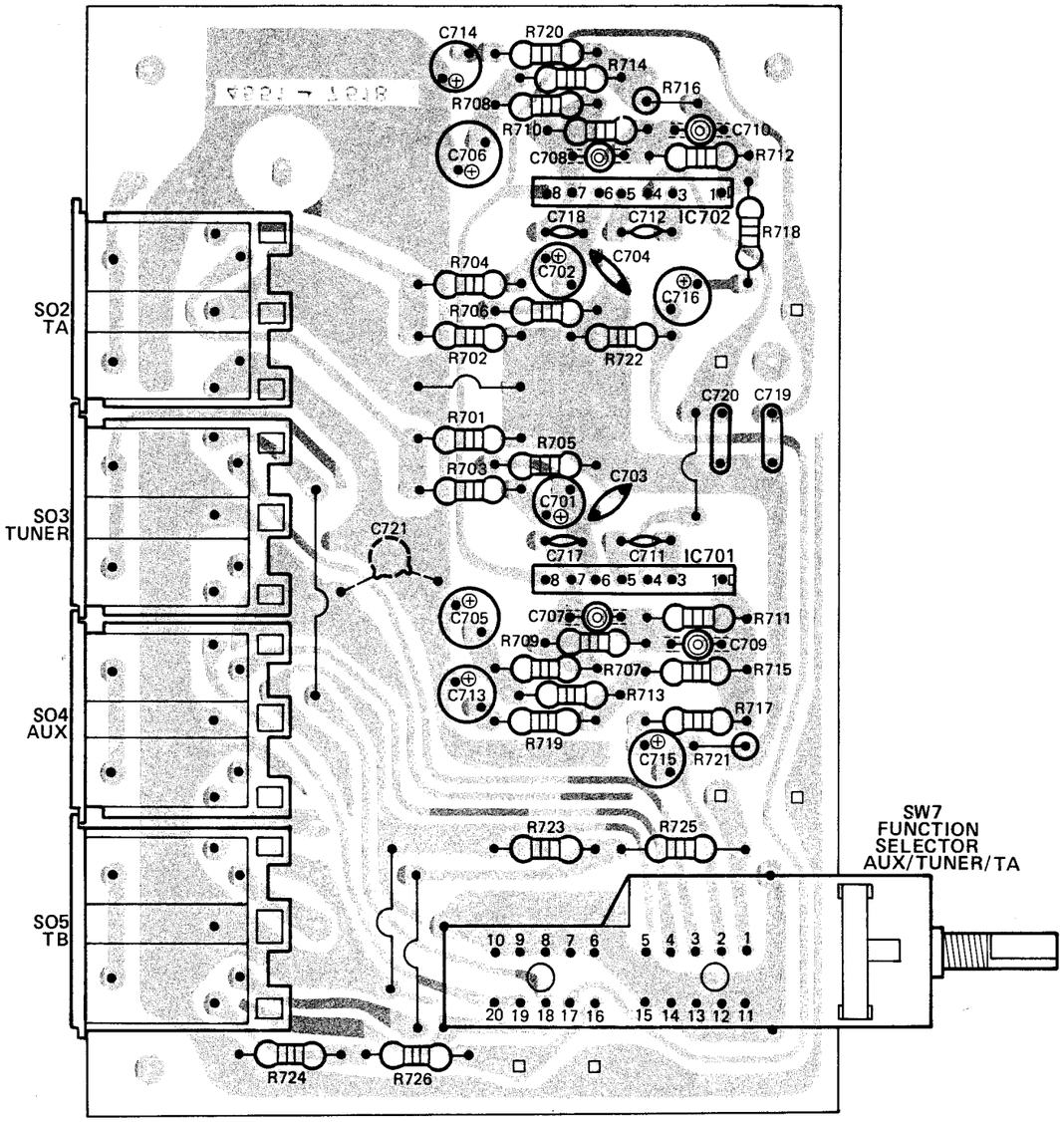
Q419 Q420
Q421 Q422



Q423 Q424
Q425 Q426



EQUALIZER P.C. BOARD



ELECTRICAL PARTS LIST

[MODEL SA5030]

REF. NO.	DESCRIPTION			PART NO.	ORDER Q'TY		
	RESISTORS						
R417, 418	270 ohm	1/4W	Fuse	5102-2714713			
R425, 426	470 ohm	1/4W	Fuse	5102-4714713			
R427, 428	27 ohm	1/4W	Fuse	5102-2704713			
R435, 436	68 ohm	1/4W	Fuse	5102-6804713			
R469, 470	470 ohm	1W	Metal	5171-471581			
R475, 476, 477, 478, 479, 480	100 ohm	1/4W	Fuse	5102-1014713			
VR401, 402	Variable Resistor, 100 k ohm, Bass			5113-1047177			
VR403, 404	Variable Resistor, 50 k ohm, Treble			5113-5037377			
VR405, 406	Variable Resistor, 1 k ohm, Idling			5101-10271913			
VR501, 502	Variable Resistor, 50 k ohm, Balance			5113-5037277			
VR503, 504	Variable Resistor, 100 k ohm, Volume			5113-1047297			
	CAPACITORS						
C1	0.01MF	AC220V	Metalized	5352-1030955			
C10, 12	0.39MF	50V	Mylar	5345-394K1HM			
C11, 13	3300PF	50V	Mylar	5354-332K1HM			
C14	0.047MF	50V	Mylar	5354-473K1HM			
C403, 404, 405, 406	200PF	50V	Stylor	5355-201J1HS			
C407, 408	0.01MF	50V	Mylar	5354-103K1HM			
C409, 410	0.1MF	50V	Mylar	5354-104K1HM			
C413, 414	0.033MF	50V	Mylar	5354-333J1HM			
C415, 416	0.15MF	50V	Mylar	5354-154J1HM			
C417, 418	0.0047MF	50V	Mylar	5354-472K1HM			
C419, 420	0.027MF	50V	Mylar	5354-273K1HM			
C501, 502	270PF	50V	Stylor	5355-271J1HS			
C503, 504	0.039MF	50V	Mylar	5354-393K1HM			
C707, 708	5600PF	50V	Stylor	5355-562J1HS			
C709, 710	1600PF	50V	Stylor	5355-162542			
C719, 720	0.047MF	50V	Mylar	5354-473K1HM			
	SEMICONDUCTORS						
Q1, 2, 9, 10, 411, 412	Transistor (2SA999(F)), Muting, Overloard Protector, Pre Driver			5611-999(F)			
Q3	Transistor (2SB647(C)), Voltage Regulator			5612-647(C)			
Q4	Transistor (2SD667(C)), Voltage Regulator			5614-667(C)			
Q5, 7	Transistor (2SA872(E)), Overload Protector			5611-872(E)			
Q6, 8, 401, 402, 403, 404	Transistor (2SC1775(F)), Overloard Protector, Voltage Amp.			5613-1775(F)			
Q405, 406, 407 408	Transistor (2SA999L(F)), Voltage Amp.			5611-999L(F)			
Q409, 410, 417 418	Transistor (2SC2320(F)), Voltage Amp., Bias Stabilization			5613-2320(F)			
Q413, 414	Transistor (2SA992(F)), Pre Driver			5611-992(F)			
Q415, 416	Transistor (2SC1845(F)), Pre Driver			5613-1845(F)			
Q419, 420	Transistor (2SC1509(R)), Driver			5613-1509(R)			

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
Q421, 422	Transistor (2SA777(R)), Driver	5611-777(R)			
Q423, 424	Transistor (2SD588AO(R)), Power Output	5614-588AO(R)			
Q425, 426	Transistor (2SB618AO(R)), Power Output	5612-618AO(R)			
IC701, 702	Integrated Circuit, Equalizer Amp.	5652-HA1457W			
D1	Light Emitting Diode, Power Indicator	5637-GL2PR1			
D2	Diode, Rectifier	5632-SIB01-02			
D3, 4	Diode, Switching	5636-1SS81			
D5, 6	Zener Diode	5635-RD20EB			
D7, 8, 9, 10	Diode, Switching	5636-1SS81			
D11	Zener Diode	5635-RD5R1EC			
D12	Bridge Silicon Diode, Rectifier	5685-S4VB20			
D401	Zener Diode	5635-RD15EB3			
D403, 404	Varistor, Bias Compensation	5641-MV12YM			
D405, 406	Varistor, Bias Compensation	5641-MV1			
	COILS AND TRANSFORMER				
L401, 402	Coil, RF Choke	5991-7145			
T1	Transformer, Power	5584-701263			
	MISCELLANEOUS				
SW1	Push Switch, Power	4431-01017658			
SW2, 3	Push Switch, Speaker System-A, Speaker System-B	4431-02047153			
SW4, 5, 6,	Push Switch, Loudness, TB, Mono	4431-03067149			
SW7	Rotary Slide Switch, Function (AUX/ Tuner/TA)	4412-043722			
SW8	Push Switch, Muting	4431-01027372			
TE1, 2	Speaker Output Terminal, Speaker System-A, Speaker System-B	4474-65			
FU1	Fuse, 1.6AT	5732-20202			
FU2, 3	Fuse, 4AT	5732-402030			
FH1	Fuse Holder	4472-416			
FH2, 3	Fuse Holder	4472-7122			
J1	Jack, Headphone	4451-7191			
SO1	AC Socket	4474-126			
SO2, 3, 4, 5,	DIN Socket, TA, Tuner, Aux, TB	4474-133			
P1	AC Line cord with Plug, Ext. AC	4161-71108			